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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/085,744	10/22/2001	Dirk Quintens	27500-10	8435

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EXAMINER

TSOY, ELENA

ART UNIT	PAPER NUMBER
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1762

DATE MAILED: 01/05/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/085,744

Applicant(s)

QUINTENS ET AL.

Examiner

Elena Tsoy

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 10 November 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-9 and 11-14 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-9 and 11-14 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

***Response to Amendment***

1. Amendment filed on 11/10/2005 has been entered. New claims 13-14 have been added. Claims 1-9, 11-14 are pending in the application.

***Claim Objections***

2. Claim 13 objected to because of the following informalities: "characterized in that" should be changed to "wherein".

***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-3 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Sekiguchi (US 6,485,812) in view of JP63101463 for the reasons of record set forth in paragraph 3 of the Office Action mailed on 8/22/2005 because limitation incorporated by amendment of 11/10/2005 is *optional*.
5. Claims 4-6, 9 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Sekiguchi in view of JP63101463, further in view of Cousin et al (US 4,554,181) for the reasons of record set forth in paragraph 5 of the Office Action mailed on 8/22/2005.
6. Claim 7 stands rejected under 35 U.S.C. 103(a) as being unpatentable over Sekiguchi in view of JP63101463, further in view of Cousin et al, and further in view of Rabasco (US 6,455,134) for the reasons of record set forth in paragraph 6 of the Office Action mailed on 8/22/2005.

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7. Claim 8 stands rejected under 35 U.S.C. 103(a) as being unpatentable over Sekiguchi in view of JP63101463 in view of Cousin et al, and further in view of Malhotra et al (US 5,693,410) for the reasons of record set forth in paragraph 7 of the Office Action mailed on 8/22/2005.

8. Claims 11, 12 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Sekiguchi in view of JP63101463, further in view of Van den Zegel (US 5,693,370) for the reasons of record set forth in paragraph 8 of the Office Action mailed on 8/22/2005.

9. Claims 1-3, 11-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sekiguchi (US 6,485,812) in view of Santo et al (US 5,965,252) and Kono et al (US 4,801,497), further in view of JP63101463.

Sekiguchi is applied here for the reasons of record set forth in paragraph 3 of the Office Action mailed on 8/22/2005. Sekiguchi fails to teach that the water-soluble binder resin such as PVA or silanol modified PVA, is used in combination with a curing agent for the water-soluble binder resin such as polyisocyanate compound, aziridine compound, melamine resin, urea resin, or oxazoline resin; cationically modified PVA is used instead of PVA or silanol modified PVA (Claim 13).

Santo et al teach that the use of a cross-linking agent such as polyisocyanate compound, aziridine compound, melamine resin, urea resin, or oxazoline resin (See column 10, lines 24-43) is used in combination with a water-soluble binder resin such as PVA or silanol modified PVA or cationically modified PVA (See column 10, lines 8-10) and alumina hydrate (See column 10, lines 24-27) surface treated with a coupling agent (See column 4, lines 30-32), e.g. alkoxides of titanium (See column 5, lines 22, 26-27), permits the improvement of water resistance of the resulting ink-receiving layer (See column 10, lines 24-26). Santo et al further teach that an aqueous coating composition can be applied using curtain or slide hopper techniques (See column

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11, line 59). Kono et al teach that cationically modified PVA is meant to be PVA having a cationic group such as a primary to tertiary amino group or a quaternary ammonium salt group in a main chain or a side chain (See column 4, lines 13-18).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have used either cationically modified PVA (nitrogen containing cationic polymer), PVA or silanol modified PVA as a binder in Sekiguchi in combination with a cross-linking agent such as polyisocyanate compound, aziridine compound, melamine resin, urea resin, or oxazoline resin and alumina hydrate surface treated with a titanium alkoxide coupling agent with the expectation of providing the desired improvement of water resistance of the resulting ink-receiving layer, as taught by Santo et al.

Sekiguchi in view of Santo et al and Kono et al fails to teach that the layers (a) and (b) are coated simultaneously wet-on-wet wherein the static surface tension of a top layer (b) is lower than the static surface tension of a layer (a) (Claims 1, 13).

JP'463 teaches that when upper coat paint, e.g. clear paint is applied on a base coat paint by wet-on-wet process, wherein the surface tension of the base paint is higher than that of the upper coat paint, the upper coat paint expands to make thin film over the base coat film surface, and shows good levelling property (See Abstract).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have applied upper layer (b) on a base layer (a) in Sekiguchi in view of Santo et al and Kono et al by wet-on-wet process, wherein the surface tension of the base layer (a) is higher than that of the upper layer (b), with the expectation of providing the desired good levelling property and good expansion of the upper layer (b) to make thin film over the base layer (a) surface, as taught by JP'463.

Sekiguchi in view of Santo et al and Kono et al, further in view of JP63101463 fails to teach that the layers are coated simultaneously wet on wet using a slide-hopper coating technique (Claims 11, 13) or a curtain coating technique (Claims 12, 13).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have used slide-hopper or curtain coating techniques for applying simultaneously wet on wet a plurality of layers in a method of Sekiguchi in view of Santo et al and Kono et al, further in view of JP63101463 since Santo et al teach that slide-hopper or curtain coating techniques can be used for applying water based coatings.

10. Claims 4-6, 9, 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sekiguchi in view of Santo et al and Kono et al, further in view of JP63101463, and further in view of Cousin et al (US 4,554,181).

Sekiguchi in view of Santo et al and Kono et al, further in view of JP63101463 is applied here for the same reasons as above. Sekiguchi in view of Santo et al and Kono et al, further in view of JP63101463 fails to teach that the water-soluble polymer is a cationic polymer (Claim 4) such as nitrogen containing cationic polymer (Claim 5), e.g. poly(diallyldimethylammonium chloride) (Claims 6, 14) or polyamine (Claim 9).

Cousin et al teach that coatings comprising nitrogen containing cationic polymers such as poly(diallyldimethylammonium chloride) or polyamine (See column 5, lines 19-21) on a recording sheet provide non-offsetting images good and water fastness since the cationic polymers insolubilize anionic dyes (See column 2, lines 34-45).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have used nitrogen containing cationic polymers such as poly(diallyldimethylammonium chloride) or polyamine as water-soluble polymer in a method of Sekiguchi in view of Santo et al

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and Kono et al, further in view of JP63101463 with the expectation of providing the desired non-offsetting images good and water fastness, as taught by Cousin et al.

11. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sekiguchi in view of Santo et al and Kono et al, further in view of JP63101463, further in view of Cousin et al, and further in view of Rabasco (US 6,455,134).

Sekiguchi in view of Santo et al and Kono et al, further in view of JP63101463, further in view of Cousin et al are applied here for the same reasons as above. Sekiguchi in view of Santo et al and Kono et al, further in view of JP63101463, further in view of Cousin et al fails to teach that the cationic nitrogen containing polymer is copoly(vinylalcohol-vinylacetate-diallyldimethylammonium chloride).

Rabasco teaches that coatings comprising cationic nitrogen containing polymers such as a copolymer of vinylacetate, diallyldimethylammonium chloride and vinylalcohol (See column 4, lines 9-13, 24-25, 41-42, 47, 52, 57-63) provide an ink recording paper with improved functions such as good water and light fastness (See column 1, lines 6-13).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have used a copolymer of vinylacetate, diallyldimethylammonium chloride and vinylalcohol as a cationic nitrogen containing polymer in a method of Sekiguchi in view of Santo et al and Kono et al, further in view of JP63101463, further in view of Cousin et al for the preparation of an ink jet recording sheet with the expectation of providing the ink jet recording sheet with the desired improved functions such as good water and light fastness, as taught by Rabasco.

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12. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sekiguchi in view of Santo et al and Kono et al, further in view of JP63101463, further in view of Cousin et al, and further in view of Malhotra et al (US 5,693,410).

Sekiguchi in view of Santo et al and Kono et al, further in view of JP63101463, further in view of Cousin et al are applied here for the same reasons as above. Sekiguchi in view of Santo et al and Kono et al, further in view of JP63101463, further in view of Cousin et al fails to teach that the cationic nitrogen containing polymer is cellulose 2-hydroxyethylether polymer with N,N-dimethyl, N-2 propenyl-2 propene-1-ammoniumchloride.

Malhotra et al teach that coatings comprising cationic nitrogen containing polymers such as diethylammonium chloride hydroxyethyl (ether) cellulose (See column 23, lines 22-26) provide the ink receiving transparencies and papers with many advantages such as excellent water fast and lightfast images (See column 1, lines 6-13).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have used diethylammonium chloride hydroxyethyl (ether) cellulose as a cationic nitrogen containing polymer in a method of Sekiguchi in view of Santo et al and Kono et al, further in view of JP63101463, further in view of Cousin et al for the preparation of an ink jet recording sheet with the expectation of providing the ink jet recording sheet with the desired advantages such as water fast and lightfast images, as taught by Malhotra et al.

It is held that compounds which are position isomers (compounds having the same radicals in physically different positions on the same nucleus) or homologs (compounds differing regularly by the successive addition of the same chemical group, e.g., by -CH<sub>2</sub>- groups) are generally of sufficiently close structural similarity that there is a presumed expectation



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that such compounds possess similar properties. In re Wilder, 563 F.2d 457, 195 USPQ 426 (CCPA 1977). See also In re May, 574 F.2d 1082, 197 USPQ 601 (CCPA 1978) (stereoisomers prima facie obvious).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have used any isomer of hydroxyethyl (ether) cellulose including 2-hydroxyethyl (ether) cellulose and homologue of diethylammonium chloride including dimethylammonium chloride in a method of Sekiguchi in view of Santo et al and Kono et al, further in view of JP63101463, further in view of Cousin et al, and further in view of Malhotra et al for the preparation of an ink jet recording sheet with the expectation of providing the ink jet recording sheet with the desired advantages such as water fast and lightfast images, since it is held that compounds which are position isomers (compounds having the same radicals in physically different positions on the same nucleus) or homologs (compounds differing regularly by the successive addition of the same chemical group, e.g., by -CH<sub>2</sub>- groups) are generally of sufficiently close structural similarity that there is a presumed expectation that such compounds possess similar properties.

13. Claims 11-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sekiguchi in view of Santo et al and Kono et al, further in view of JP63101463, and further in view of Van den Zegel (US 5,693,370).

Sekiguchi in view of Santo et al and Kono et al, further in view of JP63101463 is applied here for the same reasons as above. Sekiguchi in view of Santo et al and Kono et al, further in view of JP63101463 fails to teach that the layers are coated simultaneously wet on wet using a slide-hopper coating technique (Claims 11, 13) or a curtain coating technique (Claims 12, 13).

Van den Zegel teaches that a slide-hopper coating technique or a slide-hopper curtain coating technique can be used for applying hydrophilic layers simultaneously in wet on wet fashion.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have used slide-hopper coating technique or by the slide-hopper curtain coating technique for applying simultaneously wet on wet a plurality of layers in a method of Sekiguchi in view of Santo et al and Kono et al, further in view of JP63101463 since Van den Zegel teaches that slide-hopper coating technique or slide-hopper curtain coating technique can be used for applying hydrophilic layers simultaneously in wet on wet fashion.

#### *Response to Arguments*

14. Applicant's arguments with respect to claims 1-9, 11-14 have been considered but are moot in view of the new ground(s) of rejection.

#### *Conclusion*

15. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37

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CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

16. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Elena Tsoy whose telephone number is 571-272-1429. The examiner can normally be reached on Monday-Thursday, 9:00AM - 7:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Timothy Meeks can be reached on 571-272-1423. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Elena Tsoy  
Primary Examiner  
Art Unit 1762

ELENA TSOY  
PRIMARY EXAMINER



December 29, 2005